



### TASK

Conveying, recovery and processing of solids in wastewater treatment plants or industrial applications.

### SOLUTION

The JOHNSON SCREENS® Shaftless Spiral Conveyor MND / MND-V provides a cost-effective solution for bulky solids handling. They can be applied to numerous industrial or municipal applications e.g. to waste flows or to convey screenings. Due to the shaftless spiral without any intermediate bearings, the units can be supplied up to 30 meters length and convey several types of waste without any blockage.

### FUNCTION

The solids, usually fed via an inlet hopper into the trough, are conveyed by a heavy-duty shaftless spiral that rotates within wear resistant liners without any intermediate bearings. Then the material can be discharged out of the trough either vertical or axially.

### PRODUCT VARIANTS

- Twin spiral conveyor design for sludge cake
- Vertical conveying (tubular design)
- Reversible conveying design
- Pivoting conveying design
- Combination of horizontal, inclined and vertical transport
- Horizontal or inclined installation

BILFINGER WATER TECHNOLOGIES

## JOHNSON SCREENS® Shaftless Spiral Conveyor MND / MND-V

### BENEFITS

- Easy operation and maintenance:
  - main parts of the machine are in bolted section to grant good access for inspection and maintenance
- Low operating costs due to low energy consumption
- High operational reliability:
  - low tendency of blockage
- Long service life for spirals and wear lining due to shaftless, flexible spiral with weight evenly distributed over the entire length
- Quick and easy installation



**BILFINGER**

**WATER  
TECHNOLOGIES**

## DESIGN SIZES

Type	U-Trough	Spiral (mm)
	W	D Ø
MND 200	225	180
MND 250	275	240
MND 300	325	280
MND 400	425	360
MND 500	525	460

## PERFORMANCE

### Screenings or Granular Solids Chart

Diameter (mm)	Inclination	Spiral Type	Capacity (m³/h)
200	0° – 15°	standard	1.0
200	15° – 30°	reinforced	0.6
250	0° – 15°	standard	2.4
250	15° – 30°	reinforced	1.1
300	0° – 15°	standard	3.8
300	15° – 30°	reinforced	1.8
400	0° – 15°	standard	8.0
400	15° – 30°	reinforced	3.8
500	0° – 15°	standard	17.0
500	15° – 30°	reinforced	8.0

Capacities of MND/V Vertical Spiral Conveyors are analogous to the 15° – 30° inclination range.

### Sludge or Slurry Chart

Diameter (mm)	Inclination	Spiral Type	Capacity (m³/h)
200	0° – 15°	standard	3.0
200	15° – 30°	reinforced	1.7
250	0° – 15°	standard	7.0
250	15° – 30°	reinforced	3.9
300	0° – 15°	standard	11.0
300	15° – 30°	reinforced	6.0
400	0° – 15°	standard	23.0
400	15° – 30°	reinforced	13.0
500	0° – 15°	standard	45.0
500	15° – 30°	reinforced	26.0

Capacities of MND/V Vertical Spiral Conveyors are analogous to the 15° – 30° inclination range.

## MATERIALS

Conveyor trough, covers, inlet hopper  
and support:

Spirals:

Wearing liners:

stainless steel AISI 304L or AISI 316L  
special Micro Alloy Steel St.52 in accordance with  
JOHNSON SCREENS® standard, alternatively  
stainless steel AISI 304L or AISI 316L  
PE-UHMW 1000, stainless steel or HARDOX



01 \_ Screenings conveyance  
02 \_ Vertical conveyor detail (transition to horizontal)  
03 \_ Sludge conveyor system



## Water Technologies

**Bilfinger Water Technologies GmbH**  
Global Business Unit Water Treatment

### Office Australia

Bilfinger Water Technologies Pty Ltd  
88 Brickyard Road  
Geebung, Qld 4034  
(PO Box 85, Virginia DC 4014)  
Australia  
Phone +61 7 3867 5555  
Fax +61 7 3867 5566

### Headquarters

Passavant-Geiger-Strasse 1  
65326 Aarbergen  
Germany  
Phone +49 6120 28-0  
Fax +49 6120 28-2182

info.water@bilfinger.com  
www.water.bilfinger.com

## OPTIONS

- Customized supports
- Infeed hopper
- Gate valve for vertical discharge, manually operated / electric / pneumatic
- Hinged covers
- Direct connection from conveyor into conveyor (without height loss)
- Several infeeds and / or discharges
- Bi-directional conveying (reversal of conveying direction)
- Manual or automatic pivoting system
- Heating / Insulation system

## FIELDS OF OPERATION

With optimally tailored configuration, the JOHNSON SCREENS® Shaftless Spiral Conveyor MND / MND-V is suitable for a wide range of applications:

- Municipal wastewater treatment plants
- Waste disposal companies
- Incineration plants
- Chemical industry
- Paper and wood industry
- Metal processing
- Fish industry
- Fruit and vegetable industry
- Sugar refineries
- Commercial kitchens
- Food industry
- Abattoirs
- Beverage industry
- Pharmaceutical applications

## UNIQUE FEATURES

In addition to the single spiral, it is possible to supply double (twin) spiral conveyors, vertical installation, a manual or automatic pivoting system, a manual or pneumatic slide gate valve to discharge in various positions and an inclined version with motorised wheels.



*Details of conveyor trough with pneumatically operated valve*

JOHNSON SCREENS® Shaftless Spiral Conveyor MND / MND-V